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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RE:
Application No.10/729,927
Applct/Inventor: SLOWSKI, Darrel R.
Filed: 12/09/2003 Examiner: Mr Gary C.Hoge

Title: Illuminated Identification Panel Art Unit: 3611

May 17 , 2006

DECLARATION

The undersigned, Darrel Slowski, a Canadian citizen residing at New Tecumseth, Ontario, Canada, hereby Declares and states that:

1. I am the above-named inventor of the subject Application;

2. Since graduating from high school I have spent over twenty years in the Illuminated Sign industry of Canada;

3. I have been a Member of the Board of CSA (Canadian Standards Association) for the last twenty two years, being still a Member of that Board;

4. I have been a Member of the Board of the Canadian National Electrical Code for eighteen years, and am still a member of that Board;

5. The subject "lamp" of the present invention, and its manner of operation is the product of three and one half years research by me;

6. There are certain characteristics of photoluminescent lamps that the Examiner could not reasonably be expected to be familiar with, judging from his comments in regard thereto:

A) In the matter of illuminated lamp area, the larger this area, the higher the voltage required to produce the requisite luminescence emission; and the higher the illuminating voltage, the shorter the service life of that lamp. Consequently, significant increases in

the selected size of the lamp screen lead to significant reductions in lamp service life.

B) In the matter of operating voltage, it is usual practice, with a lamp of a given rated voltage to operate that lamp at that rated voltage.

C) Photoluminescent lamps are most vulnerable to moisture, due to the large conductive areas involved, such that provision for maintaining the integrity of a factory-sealed weatherproof housing, is of prime importance, as regards its effect on the longevity of the lamp.

7. A major drawback in the use of photoluminescent lamps has been their short life cycle. Thus, a lamp with a 15000 hour rated life, burning day and night, ( a year has 8760 hours) will have an anticipated service life of 1.712 years.

8. By monitoring ambient daylight with a photocell, and disconnecting the lamp from its power-source when daylight provides adequate illumination of the indicia face, the life of the phosphor can be approximately doubled.

9. By operating the lamp at a reduced voltage, at about 60% of its rated voltage, an adequate level of illumination is provided, with an associated approximate doubling of lamp life.

10. Thus, the combination of lamp disconnection, and operation at reduced voltage enables lamp life to be boosted from less than two years to about six or more years, thus making a large screen photoluminescent display economically feasible.

11. Commenting upon the prior art references cited by the Examiner, there is a wealth of difference between these earlier arrangements and my subject lamp:

in the case of Finnerty (US 3,680,237) while this lamp is weatherproof, its indicia 16

are printed on a sheet of thin film 15 that is sandwiched between the transparent face plate 10 and the lamp unit 25. (see Col 1 line59 through Col 2 line 3). His sealing frame may be of adherent tape or metal (Col 2 line 54 through Col 3 line 13). It is evident that changing Finnerty's indicia would be uneconomic and extremely time consuming and labour-intensive, particularly if the weatherproof characteristics are to be reinstated. Furthermore his acrylite faceplate 10,(Col 1 lines51-53) and the printed film 15 would both be extremely vulnerable to U/V damage under long-term exposure to sunlight.

In contrast, my factory sealed lamp structure is left undisturbed, and the number cut-outs applied externally to the outer face of the screen. The Lexan XL10 sheet (copy of specification sheet enclosed) provides both mechanical and U/V protection to both the indicia and the underlying lamp screen, to prevent yellowing, long-term.

In the case of Arnold (US 3,680,238), his adoption of a"milkwhite layer for reflecting sunlight and for transmitting artificial light in the visible region, while absorbing any ultraviolet light" (Col 3 lines 1-8) is for use with incandescent lamps, and not for the purpose of extending the life of a phosphor lamp against U/V derogation, which is the purpose of the present invention.

The use of Arnold's teachings of a milkwhite layer would, to the best of my knowledge, prove totally unsuitable for use in emitting light from a low-intensity electroluminescent screen of the present invention, or for prolonging the useful lamp-life of that screen.

Matthews (US 4,272,901) uses "at least four" incandescent miniature lamps, which are connected in series and would inevitably reduce the voltage applied across any lamp to not more than 25% of the rated voltage. Any attempt to apply such teaching to electroluminescent

screens would inevitably fail, as they operate with an anode and a cathode, and are in no way analogous to an incandescent lamp, with its incandescent filament. In the case of the present invention, the voltage is reduced to about 60% of voltage rating for the lamp.

For arguments sake, the coupling of two such electroluminescent screens in series, in accordance with Matthews teaching would result in only 50% of rated voltage being applied, with consequent failure of the lamps to operate.

Weiss's use of a timer is for the purpose of switching on his battery-driven circuit, and is intended solely to prolong his battery life. There is no mention of any effect upon lamp life!

As regards screen SIZE, much more than a "mere change in the size of a component" is involved. Johnson runs directly off a household outlet that would have a maximum voltage of 120 volts, to drive his small-sized screen. To energize to the present-posited screen size of 20 inches in a lamp in accordance with Johnson would require 160 volts being applied by Johnson to enable his system to illuminate the larger size of panel, which lies well outside the capability of his household source.

12. It is noteworthy that none of the cited references are found to teach the monitoring of ambient light in order to switch-off a photoluminescent lamp, for the purpose of extending the service life of that lamp.

13. Likewise, the prior art appears mute on the matter of operating a photoluminescent sign at a voltage less than the rated voltage, for the purpose of achieving an extended service life.

15. I am convinced that if I attempted to take the prior systems referred to by the Examiner, with a view to combining them in the manner suggested by the Examiner, to provide an operable, durable system having the characteristics that I have achieved with my subject system, such an attempt would inevitably fail, for the reasons that I have set out, above.

15. Concerning the matter of indicia size for long range readability: it should be clearly understood that the particular value of the subject signs when located on the front wall of a residence is their readability from the roadside by passing emergency service personnel. Such personnel are required to meet high standards of physical fitness, including eye-sight. The subject signs facilitate the accurate identification of an address with a minimum of delay, thereby potentially saving lives, where a 911 call for heart attack or fire is being responded to.

Further, Declarant sayeth not.

Signed at New Tecumseth, Ontario, this 20th. day of May, 2006.

Darrel R.SLOWSKI